

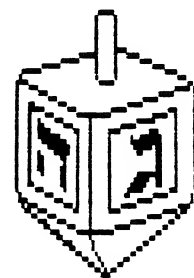
A.C.E.C.

Newsletter of the Atari Computer Enthusiasts of Columbus

Volume 4, No 12

December, 1986

From all of us at the ACEC,



Merry Christmas

and

Happy Hanukkah

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This newsletter is written and published monthly by the Atari Computer Enthusiasts of Columbus, Ohio (ACEC). ACEC is an independent, non-profit organization interested in exchanging information about any and all Atari Home Computer Systems.

Meetings for eight-bit users are held on the second Monday of each month at 7:15 p.m., at DeSales High School (on Karl Road, just south of Morse Rd.), and are open to the public.

Dues are \$12.00 per year, and entitle members to all club benefits (Newsletter, Disk of the Month, Publications Library, SIG meetings, group discounts at selected area merchants, etc.).

The ACEC Newsletter welcomes contributions of articles, reviews, editorials and any other material relating to the Atari computers, or compatible hardware devices and software packages.

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The cover of this month's newsletter was printed with a Star SG-10 dot matrix printer, using XLent Software's TypeSetter 130. The newsletter itself was also printed with a Star SG-10 printer in elite pitch, using Batteries Included's PaperClip version 1.2K on a 256K RAM modified Atari 800 XL.

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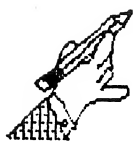
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The Editor's Column

by Warren Lieuallen

I'll keep it short this month, I promise! I just wanted to let you know that much is afoot with the ACEC. After reading and considering all the suggestions made by our Past-President, Sheldon Wesson (printed in last month's newsletter), the officer's have the following proposals:

That ACEC now consist of two separate, but related groups -- The ACEC XL/XE Users' Group (for all the eight-bit machines), and The ACEC ST Users' Group (for all the sixteen-bit machines). Under the leadership of one president, each group will have its own vice-president specifically in charge of the individual meetings and detailed activities. Each group will also have its own Disk Librarian, and its own Publication Librarian if that becomes necessary. The Newsletter will continue to serve both groups, and the Treasurer and Membership Chairman will be common to both as well.

Look for some new material in the newsletter, as the ST supplements become a regular feature, and both the eight-bit and sixteen-bit meetings' minutes become included as the Secretary's column, to the benefit of those among you who missed the meetings, or simply weren't paying much attention!

A variety of individual Special Interest Groups will be formed, as introduced by Charles Lusco last month. While initially focusing on a variety of programming languages, other topics will be dealt with as the need and interests of the membership dictate. Look for these meetings to get started in earnest in January or February.

A series of one-time, beginner's workshops and subject tutorials are being formed. These workshops would be small scale, in-depth, personalized lectures and hands-on demonstrations. A specific outline and set of objectives will be furnished, and a fee will be charged for participating. The instructors will be selected from our more experienced members, as well as professionals in the industry.

The BBS is to get a face-lift of one form or another, in the form of new hardware, new software, a new location, or any combination of these.

The Newsletter is to get a new name, beginning at the end of the year. For your information, and to spur a last minute flurry of addition suggestions from you, here are the names I have received thus far:

The ACE Line
Electronique
The Knowledge Base
Atari Computer Enthusiasts Chronicle
ACE in the Hole
Heart of the ACE's

While I have my personal favorite, as well as an idea or two of my own, I would really like to get your input.

Finally, I have received a transcript of an on-line conference between several users and the management of OSS, Inc. Due to the length, and possible limited appeal of this material, I have placed two copies in our Publications Library for your use. If you would really like to have a copy of your own, let me know. It's yours for the price of copying.

Let's do what we can to make the coming year the best and most exciting ACEC has ever seen. Help us out; write an article; put together a demonstration; let us hear from you! From all the officers of the ACEC, our best wishes for a happy and healthy holiday season.



SIG Notes

SIG Notes
by Warren Lieuallen

I'm afraid my SIG Notes are going to be pretty pathetic this month. You see, there was no Eight-Bit SIG, due to conflicts with the Thanksgiving holiday, and I couldn't be at the Sixteen-Bit SIG (to be referred to simply as the ST meetings in the future) due to conflicts with my job. So, I know less than you do about the SIG meetings this month!

You will, of course, remember that our president, Charles Lusco has promised to put on a demonstration of SynFile at the next SIG meeting, which looks like January for all you Eight-Bitters. Be sure not to miss it, as valuable help and information is sure to be flying fast and furious! Watch this column, and the ACEC BBS (268-0405) for updates on the time and place of the next SIG meeting.

The ST meeting consisted of a number of useful demos. Leading off the pack was Nasir Amra with an update on the Modula-II language. Scott Wade followed with a review of Word Writer, one of the newer word processors for the ST's. In the clean up position was Larry Mendel, demonstrating Intelicom (a new terminal program) and its use of Auto Logon Scripts.

The next ACEC ST Users' Group meeting will be Wednesday, December 10th, followed tentatively by Thursday, January 15th. As always, they meet in Classroom Four, in Doctors' Hospital North, at 7:00 p.m. Come on out and join the crowd of satisfied, educated ST users!



Officers' Commentary

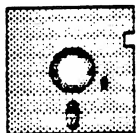
After the December meeting, I'm afraid that the Atari Computer Enthusiasts of Columbus will lose one of its most knowledgeable, helpful and influential members -- Dr. Sheldon Wesson. As many of you know, a change in employment requires Sheldon to move from Ohio to parts unknown. While exciting for him, it is costly to us all.

Having been an active member for some time, Sheldon first came to our attention as Disk Librarian. He quickly became popular for filling the disks with a wide variety of interesting and useful public domain software, often filling them so well that it required two, three or even four double-sided disks to hold it all! From this post, Sheldon moved up to that of President, which he held until our last elections this October. Sheldon instituted a number of changes while in office, led twelve very informative and interesting meetings, and proposed a number of sweeping and prophetic items with his closing statements in last month's newsletter (also refer to my editorial).

We can never even begin to repay Sheldon for all he has done for us, although I for one would like to try. Material gains were never his object (what do you give someone who already owns at least three of every conceivable piece of hardware and software for both the eight-bit and sixteen-bit machines?!), and I certainly can't help him out with my programming prowess. I can, however, suggest that Sheldon be made our official "foreign correspondent", member *ex officio*, President Emeritus, and as many other honorary titles as I can think of. Although he will no longer be able to attend the meetings, it is my sincere hope that ACEC will not lose Sheldon's

input and interest.

Sheldon, from all the officers and members of ACEC, we wish you our very best, and extend to you our deepest thanks for all you've done in our behalf.



Software Review

The NINJA

by Charles W. Brown

There is a new martial arts game. It is called Ninja, and is put out by a new outfit called Mastertronic.

In this game you are a ninja warrior. Someone has taken a princess and has her hidden in a palace. Like so many of the other stories, you have to go and rescue her. Of course, there are a lot of different bad guys that will try and stop you.

The first one is the thug -- he is supposed to be easy to beat. Then there is the Karateka -- he only uses his hands and feet but is a better fighter. Finally, there is the Evil Ninja. This is the hardest of your opponents, because both he and your ninja have weapons they can use. Available weapons include: a sword, a throwing dagger, and pointed stars that they throw.

There are several different levels that your ninja must go through. The first level is outside the palace. Then he goes up into the palace to face a few more opponents. There are several different rooms that he goes through here. As he goes higher in levels, the game gets harder. There also are little idols that he should pass over, as these renew his strength. Sometimes he has more than one opponent in an area or room, just to make things interesting.

I find the background graphics

astounding in this game. Many of the outside scenes or the rooms are very nice, very realistic. There is even some background music, which, of course, is oriental.

The one disadvantage to this game is the use of the joystick. I wish they also would allow keyboard control as well. I notice on some of the games that use all the positions of the joystick, you can have trouble making the proper selections, especially when it comes to diagonal joystick movements. In this game you do need the diagonal movements -- it allows your ninja to use his sword. Against the Evil Ninja, this is very important. The Evil Ninja seems to use his sword a lot; you'd better do the same! Use of the keyboard would help your fighter substantially, as it would help you quickly and precisely select your moves and weapons.

In this article I have tried to give you a little insight into this new game. I did enjoy the graphics. The action seems to be about the same, if not better than some of the other martial arts games -- the use of the sword and the other weapons makes it different. You may have to try the game yourself or see it played. The final decision is yours.

Talk-Box Phoneme Listing
compiled by Warren Lieuallen

Some of you may remember from the October issue of this newsletter that we described how to build your own speech synthesizer using the SP0256-AL2 chip from Radio Shack. In that article, it was explained that the individual sounds were formed from a series of coded numbers. On the next two pages, you will find a listing of all the phonemes and their associated code numbers for use with this chip.

By combining the instructions and programs in the first article with this list, it should now be possible for anyone to have a full featured speech synthesizer for their Atari computers, and for less than \$30.00!

Allophone Listing

PAUSES

| | | |
|---|---------|---|
| 0 | 10 ms. | (PA1) Before p,t,k,ch and between words |
| 1 | 30 ms. | (PA2) Same |
| 2 | 50 ms. | (PA3) Same |
| 3 | 100 ms. | (PA4) Between clauses and sentences |
| 4 | 200 ms. | (PA5) Same |

VOWELS

| | | |
|-----|----|-----------------------|
| * a | 26 | (AE) bat, map |
| * e | 7 | (EH) set, tent |
| * i | 12 | (IH) sit, kitten |
| * o | 24 | (AA) pot, map |
| * u | 15 | (AX) up, lapel, truck |

LONG

| | | |
|---|----|--|
| a | 20 | (EY) cake, great |
| e | 19 | (IY) speak, peek |
| i | 6 | (AY) kite, sky |
| o | 53 | (OW) go, snow |
| u | 22 | (UW1) After y sounds: youth |
| | 31 | (UW2) In monosyllable words: two, shoe, food |

DIPHTHONGS (Blends)

R Colored

| | | |
|-----|----|---|
| ar | 59 | (AR) farm, garment |
| air | 47 | (XR) hair, stare |
| er | 51 | (ER1) stirring, furniture |
| | 52 | (ER2) In monosyllable words: bird, fern |
| ear | 60 | (YR) hear, irresistible |
| or | 58 | (OR) fortune, store |

Others

| | | |
|------|----|---------------------|
| * aw | 23 | (AO) awful, talk |
| oi | 5 | (OY) voice, toy |
| ow | 32 | (AW) sound, down |
| * uh | 30 | (UH) cookie, full |
| ul | 62 | (EL) little, gentle |

CONSONANTS

Stops-Voiced

| | | |
|---|----|---|
| b | 28 | (BB1) Final position, between words and in blends with other consonants: rib, fiber, blend |
| | 63 | (BB2) Initial position before a vowel: bat |
| d | 21 | (DD1) Final position: said, end |
| | 33 | (DD2) Initial position and in blends with other consonants: down, drain |
| g | 36 | (GG1) Before the letters EY, IY, EH, IH, YR and XR: gear, gate |
| | 61 | (GG2) Before the letters OW, OY, UW1, UW2, UH and in blends with other consonants: Gun, green |
| | 34 | (GG2) Before the letters AE, AY, AA, AR, ER1, ER2, OR, AO, AW, blends in the middle of words and final position: gap, agree |

Allophone Listing (cont.)

Stops-Unvoiced

| | | |
|---|----|---|
| p | 9 | (PP) please, ample |
| t | 17 | (TT1) Before SS and in final position with other consonants: gates, stop |
| | 13 | (TT2) All other positions |
| k | 42 | (KK1) Before the letters EY, AE, IY, EH, AY, IH, UW1, UW2, ER1, ER2, XR, YR and initial blends with other consonants: cute, scream |
| | 41 | (KK2) Final position and final blends with other consonants: speak, task |
| | 8 | (KK3) Before the letters AR, AO, OW, OY, OR, UW1, UW2, UH and initial blends with other consonants: coin, clown |

Fricatives-Voiced

| | | |
|----|----|---|
| v | 35 | (VV) vest, prove |
| dh | 18 | (DH1) Initial "th" sound: this, then |
| | 54 | (DH2) Final position and between vowels: bathing |
| z | 43 | (ZZ) zoo, phase |
| zh | 38 | (ZH) beige, pleasure |

Fricatives-Voiceless

| | | |
|------|----|---|
| * f | 40 | (FF) find, finger |
| * th | 29 | (TH) thin, with |
| * s | 55 | (SS) sit, single |
| sh | 37 | (SH) shirt, wish |
| h | 27 | (HH1) Before the letters EY, AE, IY, EH, IH, YR and XR: hat, hair |
| | 57 | (HH2) Before the letters OW, OY, UW1, UW2, UH, AO, OR and AR: harm, home |
| wh | 48 | (WH) white, twenty |

Resonants

| | | |
|---|----|--|
| w | 46 | (WW) we, language |
| r | 14 | (RR1) Initial position: red, write |
| | 39 | (RR2) Initial blends with consonants: brown, grease |
| l | 45 | (LL) like, hello |
| y | 49 | (YY1) In blends: beauty, comply, luter |
| | 25 | (YY2) Initial position: yes, yarn |

Nasals

| | | |
|----|----|---|
| m | 16 | (MM) milk, ample |
| n | 11 | (NN1) Before the letters EY, AE, IY, EH, AY, IH, UW1, UW2, AX, ER1, ER2, YR, AW, XR and final consonant blends: name, earn |
| | 56 | (NN2) Before the letters OW, AA, OY, OR, AR and UH: note, noise |
| ng | 44 | (NG) string, anger |

Miscellaneous

| | | |
|----|----|----------------------|
| jh | 10 | (JH) fudge, injure |
| ch | 50 | (CH) church, feature |

These sounds can be repeated for longer sounds.



Telecommunication Review

850 Express! Versions 1.0 - 3.0
A Terminal Program by Keith Ledbetter
reviewed by Jack Powell

Within the Express! family of telecommunications software, 850 Express! is a terminal program for all Hayes compatible modems. 1030 Express! is also available for all 1030 and XM-301 modems. MPP Express! is available for MPP modems.

I may as well say right off the bat that I think 850 Express! is great. It is a public domain terminal program that is better than many terminal programs you can buy. You can download 850 Express! from many public domain boards around the country (like ACED or Pandora), as well as Compuserve. 850 Express!, when downloaded, should later be re-named to AUTORUN.SYS. That way, it will be automatically loaded on boot up (while holding down the OPTION key). When it loads, it also automatically loads an Autodial file, rather than loading a separate file, as with Amodem 7.2. You can create this file, name it "PHONE.LST" (the name automatically loaded) and save it. Later, you can add more lists, and load them whenever you want. 850 Express! is written in Action! by OSS, so it is fast, accurate, and has no problems dialing boards, uploading, and downloading (*The Xmodem protocols were specially re-written from the Christensen specifications, to insure compatibility. - Ed.*). 850 Express! is also compatible with the F:R: Connection (which I have -- it works perfectly), and the R:Link. Homemade interfaces have not proven themselves very reliable, at least not for me.

850 Express! is a 32k program, so it should work on the 800, and all XE's and XL's. The main menu contains features,

such as all the DOS Options, and a second menu, containing info on sending macros, setting the clock, and changing the default drive and the default colors. Each BBS entry has room for 3 macros, time to wait for connection, and of course, the translation and baud rate. If you are looking for a very professional terminal program, which is powerful, accurate, and easy to use, 850 Express! is for you.

Being a public domain program, it is not to be sold, but the author, Keith Ledbetter will accept donations. If you think Keith should continue writing software (*don't we all? - Ed.*), then a donation may be a good idea. In my opinion, 850 1030, and MPP Express! are musts for modem users. You can write to him at:

Keith Ledbetter
2919 Ennismore Court
Richmond, VA 23224

Please, if you use this program, send in your donation today. The \$5.00 you'll spend will get you the best bargain available today -- the very best Atari terminal program in existence!



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CHRIS CRAWFORD's
ASSEMBLY LANGUAGE COURSE - Lesson 3 of 8

LESSON THREE: LOGIC

BOOLEAN LOGIC

A great deal of programming involves the use of Boolean logic. This is a standardized system for handling logical manipulations. It's sort of like algebra for logic. You must understand Boolean logic if you are to write assembly language programs, so let's get started.

Where algebra deals with numbers, Boolean logic deals with propositions. A proposition is just a statement such as "Fred eats worms." It can take only two possible values -- True or False. In our programs we seldom bother with broad and glorious propositions such as "Love is the universal language of truth" or "War is the extension of policy by other means". Instead, we normally deal with propositions such as "The joystick trigger has been pressed," or "There is a diskette in the disk drive."

When we use Boolean logic with a computer, we may think in terms of true and false, but the computer is actually working with 1's and 0's. We use the following convention: a 1 corresponds to a Boolean value of "true", while a 0 corresponds to a Boolean "false".

Using this system we can represent propositions inside the computer. However, programming requires more than the mere representation of data; we must

also be able to manipulate that data. This brings us to the Boolean operators. There are four common Boolean operations necessary for most programming practices:

Not

This is the simplest of Boolean operators. It takes a single Boolean value as an input and produces as its output the logical converse of the input. Thus, a true input yields a false output, while a false input generates a true input.

Or

This Boolean operator takes two Boolean values as its input and generates a single Boolean value as its output. The value of the output depends on the values of the inputs according to the following rule: If one input is true OR the other value is true, then the output is true. Otherwise, the output is false.

And

This Boolean operator is just like the OR operator, except that it uses a different rule. Its rule is: If one input is true AND the other input is true, then the output is true; otherwise the output is false.

Exclusive-Or

This Boolean operator is just like the OR operator, except that its rule is: If one input is true, OR the other input is true, BUT not both are true, then the output is true; otherwise, the output is false.

When we use the 6502 for Boolean operations, you must remember that the operations are eight bits wide. Instead of working with one bit at a time, we use all eight bits of a word in parallel. The bits in a byte are independent and do not affect each other in any way -- at least as far as Boolean operations are concerned.

The 6502 has three instructions for performing Boolean operations. These are AND, EOR, and ORA. The first performs an AND operation. For example, consider the following code:

```
LDA    FISH
AND    GOAT
```

This will first Load the Accumulator with the value of FISH. It will then AND the contents of the accumulator with the contents of GOAT. The result of the AND operation will be left in the accumulator.

The AND instruction can use an immediate operand if you desire, just as the ADC instruction can.

The EOR instruction provides the exclusive-or operator. It works just like the AND instruction. The ORA instruction provides the OR operator in just the same way.

If you wish to obtain the NOT operation, just use EOR #\$FF; this will invert each bit in the accumulator. Because NOT is so easily reproduced with EOR, there is no special NOT instruction in the 6502.

APPLICATIONS OF BOOLEAN LOGIC

If you have any sense at all, you are probably asking, "What good is all this Boolean nonsense? What would I use it for?" Four applications are available:

Program Logic -

Many times our programs encounter rather complex logical situations. The program must be able to load a file; if the FMS is in place and there is a diskette in the disk drive, and the diskette has the file we are looking for, or the file specification calls for a cassette load, then we will load the program. Many programming problems involve such Boolean operations. Keeping them straight is certainly a headache.

Masking Bits -

Sometimes we need to isolate particular bits in a byte. For example, in Eastern Front (1941) I used the character value to store the unit type. The color of the unit was encoded in the upper two bits of the byte, the type in the lower six bits. If I wanted to get only the unit type, I had to mask out the upper two bits. This I did with the following code fragment:

```
LDA    UNITCODE
AND    #$3F
```

The AND-instruction eliminated the upper two bits, leaving me with just the unit type. Bit-masking like this is useful in many situations. We use it frequently when we pack bits into a byte to save memory. It is also handy with input handling. If you want to read the joystick port, you frequently mask out the bits in turn to see which is active.

By the way, you mask out bits set to 1 with the AND instruction. You mask out bits set to 0 with the ORA instruction. The logic is reversed.

Setting and Clearing Individual Bits -

We also use the AND and ORA instructions to set or clear individual bits within a byte. This is most often useful for handling arrays of flag bits.

Folding Bytes Together -

This little fragment of code will fold bytes together:

```
LDA    FISH
EOR    GOAT
AND    MASK
EOR    GOAT
STA    ANSWER
```

This is a magical piece of code. See if you can figure out what it does.

Experiment with two values of MASK: #0F and #F0.

SHIFT AND ROTATE INSTRUCTIONS

The 6502 also has instructions that allow you to shift the bits around inside a byte. The first of these are the shift instructions. One, ASL, shifts a byte to the left; the other, LSR, shifts a byte to the right. Thus, the byte %01101011, when shifted left, becomes %11010110. Each bit is shifted one position to the left. The leftmost bit is rudely pushed right out of the byte and falls away ("Aaaaaarrngghh!"). A zero is shifted into the rightmost bit. The LSR instruction does the same thing in the opposite direction.

Note that ASL also doubles the value of the byte, while LSR halves it. Two ASL's multiply by four; three multiply by eight. This makes it easy to do simple multiplication, but be careful with round-off error here. What happens if you try to multiply by 256? What do you get if you halve 3?

A variation on the shift instructions are the rotate instructions. There are two: rotate left (ROL) and rotate right (ROR). These function just like the shift instructions, except that the bit that gets shoved into the bottom is not necessarily a zero; it is the contents of the Carry bit. The bit that gets pushed off the edge of the byte goes into the Carry bit, so it is not lost. Thus, if you rotate either way nine times, you'll be right back where you started.

Rotate instructions are a handy way to get a particular bit into the carry bit where you can work on it. Conversely, once you get your desired bit into the carry bit the way you want it, you can put it back into a byte with some rotate instructions.

INCREMENT AND DECREMENT INSTRUCTIONS

The last instructions I will cover

are the increment and decrement instructions. These allow you to add one (increment) or subtract one (decrement) from a memory location. These are not considered to be arithmetic operations so they do not affect the Carry flag, nor are they affected by it.

You cannot increment or decrement the accumulator, only RAM locations.



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Hardware Review

The P:R: Connection
850-compatible Interface
by Jeff Powell

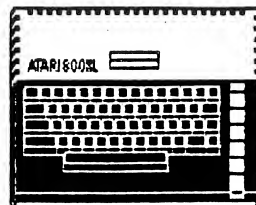
The P:R: Connection by ICD, the creators of SpartaDos and many other products, is an 850-compatible interface box that can be used with any Hayes compatible modem or any Atari compatible printer. I just bought the P:R: Connection, and in my opinion, it is a very good 850 replacement. The store I purchased it from sold it for \$71.95. That's almost \$50 dollars less than the now-obsolete 850.

It is very compact, about 5 x 9 inches, and it gets it's power from the Atari computer. It has two RS-232's and a printer connector on the back, and an I/O cord and an I/O plug on the front. The I/O cord connects to drive 1, while the computer plugs into the I/O plug. It is compatible with all 850 modem software except Hometerm, for which there is a handler on the disk that is contained with it. 850 Express! and Amodem 7.2 work like a charm on this peripheral, and all Compuserve software should be compatible with it, too.

For \$71.95, this little guy has about the same capabilities as the 850 and takes little room on your desk, and has no plug to tangle with your other ones. I would recommend the P:R: Connection to anyone who needs an Atari interface, although the 850 still has not yet had something top its great quality.

The ICD P:R: Connection package contains:

- 1) The P:R: Connection interface
- 2) A Handler disk which contains three terminal programs.
- 3) The instruction manual.
- 4) A list of other products by the same company, including SpartaDos and Rambo XL.



Eight-Bit Atari Programming

Machine Language -- Part 7
Using the X and Y Registers

by Charles W. Brown

In previous articles on machine language I have mentioned the accumulator. It is probably one of the most important and frequently used registers in machine language programming. With this article, I will write about two other registers: the X and Y registers.

These registers are quite similar to the accumulator. Just as you can use the command LDA #64 to load the accumulator, you could use LDX #64 to load the X register with the number 64. You can also use STX 710, which would store the contents of the X register into memory location 710. This particular example would turn the graphic 0 screen red (710 is the background color register, and 64 is the value for red - Ed.).

Usually the X and Y registers are used as counters or offsets. They can be used as a counter to see how many times you have gone through a loop. They can be used as an offset into a location or a variable, to keep track of where you are.

I have included the source code for a machine language program which I wrote using the Atari Macro Assembler Editor. This program will take a user's input, and will store the input into a variable (MESS4) in the usual way. Then it takes that same input and stores into the variable MESS5 backwards. By using the arrow keys, the user can display each message on the screen, switching back and forth between the two. Examining the source code, you will see that I have used the X and Y registers a lot. Hopefully, this will help you to

understand how they can be used, and will make them more useful to you.

```

        ORG $4000          ;store the object
code at 4000 hex
        LIST -M
;FIRST WE CLEAR THE SCREEN
;THEN WE PRINT MESSAGES 1+2
;AND GET THE USERS INPUT
;THE PUTRECS ARE CALLS TO MACROS
;THAT DO PRINT FUNCTIONS
;GETREC IS AN INPUT MACRO
START:  PUTREC CLEAR,#1,#0,#0 ;THIS
CALLS A PRINT MACRO
        PUTREC MESS1,#MS1,#0,#0 ;ANOTHER
PRINT MACRO
        LDA #0
        STA CRSINH        ;THIS TURNS THE
CURSOR ON (POKE 752,0)
        PUTREC MESS2,#MS2,#0,#0
                GETREC ANS,#70,#0,#0
;THIS CALLS AN INPUT MACRO
        LDA ICBLL         ;GET LENGTH OF
INPUT
        CMP #36           ;DID USER GO TO
FAR?
        BCC LENOK         ;LENGTH IS OKAY
SO SKIP THIS SECTION
;TELL USER INPUT IS TOO LONG
;THEN TELL THEM TO HIT RETURN KEY
;TO CONTINUE
        LDA #1
        STA CRSINH        ;THIS TURNS THE
CURSOR OFF (POKE 752,1)
        PUTREC TOOBIG,#TB,#0,#0
        PUTREC PROMPT,#PR,#0,#0
        LDA #$FF          ;255
        STA CH            ;TURN KEYBOARD
CODE OFF (POKE 764,255)
;WAIT FOR RETURN KEY PRESS
RLOOP:  LDA CH            ;GET KEYBOARD
CODE (?PEEK(764))
        CMP #12          ;RETURN KEY?
        BNE RLOOP        ;KEEP LOOPING
UNTIL KEY IS HIT
        LDA #$FF          ;255
        STA CH            ;TURN KEYBOARD
CODE OFF (POKE 764,255)
        JMP START        ;GIVE USER
ANOTHER CHANCE FOR INPUT
LENOK:  STA LEN           ;STORE LENGTH OF
INPUT
        DEC LEN          ;BACK UP ONE
SPACE TO GET RID OF EOL CHAR (#9B)

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;NOW WE WILL TAKE THE USERS INPUT AND
;STORE IT FROM LEFT TO RIGHT INTO
;THE VAR. MESS4
        LDX #0           ;START X REG AT 0
        LDY #0           ;START Y REG AT 0
FLOOP:  LDA ANS,X         ;GET USERS INPUT
        STA MESS4,Y       ;STORE IT IN TO
THE VARIABLE MESS4
        CPX LEN           ;COMPARE X REG TO
LENGTH OF MESSAGE
        BEQ DONE         ;IF EQUAL THEN
JUMP TO LABEL DONE
        INX               ;INC X REG (GET
NEXT CHAR IN ANS FIELD
        INY               ;INC Y REG (POINT
AT NEXT POS. IN MESS4 FIELD)
        JMP FLOOP        ;KEEP LOOPING
;NOW WE WILL STORE THE USERS INPUT
;INTO MESS5 BACKWARDS THE X REGISTER
;WILL POINT AT THE LAST CHAR IN THE
;USERS ANSWER AND WILL WORK TOWARDS
;THE 1ST CHAR.
DONE:   LDX LEN           ;START AT LAST
CHAR IN USERS INPUT
        DEX              ;DON'T INCLUDE
EOL CHAR
        LDY #0           ;START Y REG AT 1
BLOOP:  LDA ANS,X         ;GET CHAR FROM
USERS INPUT
        STA MESS5,Y       ;STORE IT INTO
VARIABLE MESS5
        CPX #$FF         ;WHEN X EQUALS
255 WE ARE DONE
        BEQ DONE1        ;GOTO LABEL DONE1
WHEN WE ARE THROUGH
        DEX              ;DECREMENT THE X
REGISTER (GO BACKWARDS)
        INY              ;INCREMENT THE Y
REGISTER (GO FORWARDS)
        JMP BLOOP        ;KEEP LOOPING
UNTIL WE ARE DONE
;NOW CLEAR THE SCREEN AND PRINT MESS6
;AND 7 ON BOTTOM
DONE1:  PUTREC CLEAR,#1,#0,#0
;THE NEXT 4 COMMANDS ARE THE SAME AS
;POSITION 1,19
AGAIN:  LDA #19
                STA ROWCRS        ;SET VERT
PRINTING POSITION
        LDA #1
        STA CRSINH        ;TURN CURSOR OFF
(POKE 752,1)
        PUTREC MESS6,#MS6,#0,#0
        PUTREC MESS7,#MS7,#0,#0

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        PUTREC MESS8,#MS8,#0,#0
        LDA #$FF          ;255
        STA CH            ;TURN KEYBOARD
CODE OFF
KLOOP:  LDA CH            ;GET KEYBOARD
CODE
        CMP #6            ;LEFT ARROW(+)KEY
        BEQ BACK          ;IF THERE IS A
MATCH THEN GOTO LABEL BACK
        CMP #7            ;RIGHT ARROW
(MULTIPLICATION KEY)
        BEQ FOR           ;IF THERE IS A
MATCH THEN GOTO LABEL FOR
        CMP #28           ;ESCAPE KEY
        BNE KLOOP         ;GOTO LABEL KLOOP
IF NO MATCH (KEEP LOOPING)
        JMP START         ;IF ESCAPE KEY IS
HIT THEN GOTO LABEL START
;THIS ROUTINE WILL PRINT MESSAGE 5
;OR THE USERS INPUT BACKWARDS
;POSITION 1,12
BACK:   LDA #1
        STA COLCRS        ;SET THE HORIZ.
PRINTING POSITION
        LDA #12
        STA ROWCRS        ;SET THE VERT.
PRINTING POS
        PUTREC MESS5,LEN,#0,#0
        JMP AGAIN         ;GO BACK AND WAIT
FOR USERS CHOICE AGAIN
;THIS ROUTINE WILL PRINT MESSAGE 4
;OR THE USERS INPUT FORWARD
FOR:    LDA #1
        STA COLCRS        ;SET THE HORIZ.
PRINTING POSITION
        LDA #12
        STA ROWCRS        ;SET THE VERT.
PRINTING POS
        PUTREC MESS4,LEN,#0,#0
        JMP AGAIN         ;GO BACK AND WAIT
FOR USERS CHOICE AGAIN
;THE NEXT SECTION ARE THE EQUATES
;THIS IS WHERE I DEFINE MY VARIABLES
LEN     DS 1
MESS1:  DB 'PLEASE ENTER YOUR MESSAGE'
MS1     EQU *-MESS1
MESS2:  DB 'NOT OVER 35 CHARACTERS'
MS2     EQU *-MESS2
TOOBIG: DB 'SORRY..YOUR INPUT IS TOO
LONG'
TB      EQU *-TOOBIG
PROMPT: DB 'HIT RETURN KEY TO DO AGAIN'
PR      EQU *-PROMPT
MESS4   DS 50

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MESS5   DS 50
MESS6:  DB 'LEFT ARROW SHOWS INPUT
BACKWARDS'
MS6     EQU *-MESS6
MESS7:  DB 'RIGHT ARROW SHOWS INPUT
NORMAL'
MS7     EQU *-MESS7
MESS8:  DB 'HIT ESCAPE KEY TO START
AGAIN'
MS8     EQU *-MESS8
ANS     DS 50
CLEAR:  DB $7D

```

This program is only one example of how the X and Y registers are used. Even if you only study machine language programming a little, you will see that these two registers are very valuable. It would be much more difficult to program without them.



Table of Contents

Cumulative Disk of the Month Listing
compiled by Warren Lieuallen

As I have accumulated more and more of our Public Domain Disks of the Month, I have had more and more difficulty finding the programs I've wanted. I know it's there somewhere, I saw it just the other day,... you get the picture.

In an attempt to alleviate some of the difficulty, I have been using a BASIC disk filing program (also from the Disk of the Month!) to keep track of them all. On the next seven pages, I have included a print-out of my listing. Please notice that to conserve space, I have omitted the DOS.SYS and DUP.SYS files from the listing.

I hope this list is as helpful to you as it is to me. If anyone is interested, I can also furnish the filing program, which allows you to retrieve by disk, or by individual file name (usually, just looking through the printed listing is faster!).

DOM 1A1
 ASTAR 105
 TAPEDBIN 107
 LCKEN BAS 069
 GRAVITY BAS 027
 CLEMSO BAS 047
 COLOR BAS 003
 MENU 037
 TANK BAS 066
 164 FREE SECTORS

DOM 2A1
 MANIAC BIN 032
 BATS BAS 070
 TYPING BAS 049
 MANIAC OBJ 032
 SLOTMACHBAS 059
 MUNCHERSBAS 048
 STATES BAS 051
 246 FREE SECTORS

DOM 3A1
 OMARI 046
 MOONLAND 035
 LASERBAR 065
 HANOI 041
 MGOLF 077
 INVADER 031
 301 FREE SECTORS

DOM 4A1
 VULTURESBAS 081
 PINBALL BAS 044
 TMTRIAL BAS 058
 ANTMAR BAS 037
 STUNTMANBAS 054
 BALLOONSBAS 092
 222 FREE SECTORS

DOM 5A1 --
 MER BAS 052
 DND BAS 028
 FROG BAS 062
 TAG BAS 044
 BANKSHOTBAS 048
 SPEEDDEMBAS 051
 303 FREE SECTORS

DOM 6A1
 CALENDARBAS 044
 CHANGE BAS 036
 GRUBS BAS 071
 ENGINEERBAS 048
 SUPERMANBAS 092
 OILGAME BAS 100
 197 FREE SECTORS

DOM 7A1
 CAS2DISKBAS 015
 PIAZZA BAS 064
 SOLITA BAS 079
 CASCOPY BAS 018
 KNIGHTS BAS 091
 FILLERUPBAS 067
 212 FREE SECTORS

DOM 8A1
 PHANTOM BAS 072
 GOBBLER BAS 073
 CAMEL BAS 060
 TBIRD BAS 062
 CLOSEOUTBAS 055
 STRBLASTBAS 054
 170 FREE SECTORS

DOM 9A1
 UMBERBAS 060
 XS BAS 053
 MUTIE BAS 084
 CHARGEN BAS 037
 HARVEY BAS 013
 TAKES BAS 048
 251 FREE SECTORS

DOM 10A1
 WILDWESTBAS 066
 PAIRFARMBAS 104
 MSLECHMBAS 060
 HOMEINVBAS 021
 AIRDEF BAS 053
 DRAW BAS 000
 234 FREE SECTORS

DOM 11A1
 BLKRABITBAS 025
 SHOOT BIN 010
 BIOCHART 035
 CATAOMB 074
 DEFENDITBIN 013
 FROGGIE BIN 040
 349 FREE SECTORS

DOM 12A1
 HARVEY OBJ 013
 MYRIAPODOB 066
 JUGNAUT BAS 038
 TYPO LST 008
 PONG OBJ 011
 NEOM BAS 038
 372 FREE SECTORS

DOM 13A1
 ROUNDUP BIN 021
 PACMAN2 BIN 103
 HOLLYMEDBIN 063
 BOWLING BAS 064
 OTHELLO BAS 046
 LUNLANDRBAS 070
 TROM BIN 087
 ELEPHANTBAS 069
 SABOTAGEBAS 053
 METHANE BAS 011
 000 FREE SECTORS

DOM 13A2
 DSKTOOL PT2 051
 PROGINDXDOM 016
 DSKLABELBAS 018
 SMAIL BAS 018
 NOVERDUPSYS 042
 DSKTOOL RV3 054
 DSKINDEXBAS 093
 SECTCOPYBIN 008
 AUTOMATEBAS 023
 SUPERDUPSYS 042
 259 FREE SECTORS

DOM 14A1
 LEPRECHNBAS 086
 ANTHEM BAS 123
 ACROBAT BAS 018
 ROBOTSETDAT 009
 SIMON BAS 022
 PACINVADBAS 052
 GRAVITR BAS 078
 ROBOT BAS 150
 CYCLE BAS 046
 003 FREE SECTORS

DOM 14A2
 FLAKES BAS 037
 FLICKER BAS 030
 WATERFALBAS 031
 HOLE BAS 011
 EZTRANS BAS 043
 BOX BAS 008
 FAUCET BAS 029
 MAGIC BAS 019
 SUNRISE BAS 022
 ZOWIE BAS 038
 SPIRAL BAS 020
 TRENCH BAS 009
 WIERD BAS 065
 JOYDRAW BAS 071
 ART BAS 083
 HORSE BAS 023
 PENCILS BIN 047
 SPLINE BAS 020

ROSETTE BAS 012
 000 FREE SECTORS

DOM 15A1
 DONKONG BAS 021
 LEVEL2 059
 SWARM BAS 039
 RACE 033
 RUNWAY BAS 052
 LEVEL1 057
 LEVEL3 052
 ELEVATOR 060
 ROADRACEBAS 038
 BARRELLS 057
 MATCHBOXBAS 058
 001 FREE SECTOR

DOM 15A2
 LADY PIC 032
 TEX PIC 033
 TIMEACHPIC 027
 GIRLBESTPIC 042
 UNCLESAMPIC 021
 DIPCHIPSPIC 034
 SQUEEZE PIC 027
 WINSTON PIC 035
 DOLLAR PIC 036
 RETROFIRBIN 042
 231 FREE SECTORS

DOM 15B1
 MINIDOS DOC 015
 WEDGE BAS 030
 COMPARE BAS 034
 PEEKRAM BAS 033
 PEEK764 BAS 004
 XREF BAS 071
 DSASMBLRBAS 040
 ERSUB USE 020
 HELLO BAS 002
 MINIDOS BAS 016
 VARTABLELST 013
 RENUMBERBAS 060
 HEXPOKE BAS 023
 MASHER BAS 054
 TRACE LST 042
 ERRSUB LST 026
 MESSAGE BAS 103
 ERRSUB LST 026
 001 FREE SECTOR

DOM 15B2
 DISPLAY SUB 002
 DELETE SUB 001
 MENU DAT 004
 FNBYTESTSCR 033
 SUPRFONTBAS 062
 JERRY FMT 009
 COMPUTERFMT 009
 HEBREW FMT 009
 MATH FMT 009
 CHEMICALFMT 009
 ROMAN FMT 009
 BOZO FMT 009
 SCRIPTORBAS 126
 FONTBYTEBAS 099
 EXPAND SUB 001
 CLEAR SUB 001
 CHAR DAT 003
 CHAGEN BAS 037
 FONTFLIPBAS 017
 JIGSAW FMT 009
 GREEK FMT 009
 HIERO FMT 009
 FANCY FMT 009
 FONTDSPLBAS 010
 MODERNE FMT 003
 TEXTEDITBAS 085
 033 FREE SECTORS

DOM 16A1
 RUBICUBEBAS 123
 CRICKETSBAS 095
 STUNTCLMBAS 056

PIANO BAS 034
 MESSIAH BAS 052
 DOODLE BAS 004
 HOOKEY BAS 051
 CASTLE BAS 072
 ORGAN BAS 037
 STRWMSUBAS 024
 001 FREE SECTOR

DOM 16A2
 PPDEMO 041
 TITLES TXT 027
 INFO TXT 077
 COMPILER 043
 DPLAYER DAT 007
 CLAV V 010
 GVI V 000
 SCIPIO V 005
 STARMARSV 004
 ROCKAS V 011
 YESTERDYV 003
 TEXAS V 004
 IBELIEVEV 004
 TENDER V 002
 MABASH V 003
 RITHRONGV 004
 IFYOUCAUV 003
 POLKSALAV 003
 SUNSHINEV 008
 HIGHMOOV 008
 MANGER V 002
 SONATA3 V 013
 VADER V 003
 HBDAY V 002
 LONDON V 003
 TITLES 005
 INFO 005
 EDITOR 146
 DPLAYER 022
 VMERGE 005
 TPIF V 009
 GNF V 021
 CAPRICIOV 017
 BUMBOOG V 016
 FACE V 003
 BEE V 013
 GLOWORMV 002
 LOVING V 007
 WATER V 003
 WHYME V 003
 STORYENDV 005
 MATHILDAV 003
 MEANDBOV 006
 SHERRIF V 004
 WALL V 009
 OLITTLE V 002
 ENTERTM V 005
 BLUES V 001
 MUSETTE V 003
 FAIR V 009
 003 FREE SECTORS

DOM 17A1
 DOGGIES BAS 068
 FORTRESSBAS 068
 GALAGA BIN 042
 TRAKSTARBAS 057
 ANIMAL INS 009
 ANIMAL DAT 002
 ANIMAL BAS 015
 APIMDAT STA 005
 KNIGHTS BAS 115
 PINAPPLEBAS 069
 PASSION BIN 093
 OCTADRAWBAS 015
 004 FREE SECTORS

DOM 17A2
 SYSTAT BAS 032
 SYSTAT SYS 003
 GTIATEXTBAS 021
 GTIATEXTSTR 006
 COLRTYPEBAS 065
 BOOTTAPEBAS 032

CDXFER OBJ 002
 CDXFER SRC 022
 CDXFER BAS 019
 CDXFER TXT 015
 DISKPEEKBAS 038
 SCRNDMP8NEC 007
 SCRNPRTBAS 064
 FASTFNGRBAS 036
 TYPO LST 008
 FORMATR BIN 040
 DATAFERBAS 061
 DSASHBLRBAS 040
 NEC0600 BIN 002
 LABELS BAS 031
 008 FREE SECTORS

DOM 18A1
 LUMB JACKBAS 081
 SHOTSTARBIN 011
 BRICKLAYBIN 016
 MAGICTRKBAS 020
 DUMDRAGIBAS 139
 DMDRAGIIBAS 177
 DICE BAS 072
 SUBATACKBAS 065
 TRIANGLEBAS 004
 002 FREE SECTORS

DOM 18A2
 BOXMAKERRUN 002
 GBOX0 OBJ 006
 GBOX1 OBJ 007
 GBOX2 OBJ 007
 BOXMAKERBAS 079
 CLOCK BAS 036
 CCHECK BAS 014
 DCHECK2 BAS 024
 BUDGET BAS 147
 KILOWATTBAS 086
 THERMONTBAS 093
 SOLIDS BAS 066
 SOLIDS DAT 007
 SOUNDEMBAS 012
 001 FREE SECTOR

DOM 18B1
 SCOPY SYS 021
 689 FREE SECTORS!

DOM 18B2
 MANIAC BIN 032
 MYRIPEDEBIN 107
 FROGGIE BIN 040
 PACMAN2 BIN 103
 FILLERUPBIN 026
 LIVEWIREBIN 037
 RETROFIRBIN 042
 HARVEY BIN 013
 SHOOT BIN 010
 293 FREE SECTORS

DOM 19A1
 CAMUCK BIN 242
 CREDITS DOC 003
 GALAXIAMBIN 061
 SMUSH BIN 067
 SHERLOCKBAS 101
 BASEBALLBAS 082
 SNOFLAKEBAS 030
 001 FREE SECTOR

DOM 19A2
 DOS 3! SYS 045
 MUSICSYNBIN 003
 STARNAR2MUS 002
 MUSICBOXMUS 003
 BOJANGLEMUS 002
 STYALIVEMUS 004
 DALLAS MUS 002
 ROUND MUS 001
 EVERGRM MUS 004
 STING MUS 001
 MASH MUS 002
 YELLOW MUS 001

RAPSODY MUS 002
 UPUP MUS 001
 EASY MUS 001
 GREENSLVMUS 001
 SOLACE MUS 002
 POMP2 MUS 001
 OBLADE MUS 001
 SIXTY MUS 002
 BOUREE MUS 001
 DREAMER MUS 001
 ROW MUS 001
 LUCY MUS 002
 000 FREE BLOCKS

DOM 20A1
 PLANET BIN 029
 MINCHIN BAS 063
 MONOPOLYBAS 089
 CRASHDIVBIN 056
 ABCTRAINBAS 068
 WORMSQRMBAS 043
 SWIRL BAS 017
 AURABALLBIN 242
 TARTAN BAS 004
 000 FREE SECTORS

DOM 20A2
 DOS SYS 034
 DUP SYS 070
 DEFAULT 031
 RX232 ARX 001
 ARCREATEBAS 016
 TSCOPE BIN 087
 TSCOPE DOC 073
 AMDRIVERBIN 004
 AMDIRVERDOC 068
 PAINT BIN 051
 PAINT DOC 039
 MAILIST1BAS 008
 MAILIST2BAS 010
 MAILIST3BAS 088
 GRAPHIT BAS 017
 POLARGRFBAS 016
 TREND5 BAS 054
 GREYHOLEBAS 004
 001 FREE SECTORS

DOM 20B1 (FORTH)
 AUTORUM SYS 123
 SYSTEM 4TH 099
 NOISES 4TH 082
 FLAKES 4TH 082
 DOODLE 4TH 042
 FLAKES BAS 037
 161 FREE SECTORS

DOM 20B2 (FORTH)
 INTRFACEIN0 001
 MX80 IN1 006
 FORTH01BIN2 119
 DOS 4TH 013
 DISK 4TH 041
 BOOTEDIT4TH 013
 EDITOR 4TH 095
 FORMAT 4TH 050
 SEARCH 4TH 041
 SYSTEM 4TH 099
 TURNKEY 4TH 009
 UTILITY 4TH 025
 FORTH01 INZ 061
 AUTORUM SYS 002
 051 FREE SECTORS

DOM 21A1
 TLOM BAS 101
 CUE BAS 080
 AKEMA BAS 062
 CENTUR BAS 098
 EC5MAZE BAS 053
 GANTLET BAS 106
 GLOOP1 BAS 003
 GLOOP BAS 061
 SNOWBIRDBAS 042
 CIRCLE BAS 005
 000 FREE SECTORS

DOM 21A2
 KALSCOPEBIN 047
 DISKVIEWBAS 023
 NEWDISK BIN 047
 LI 062
 L2 008
 SCRNSAVEBAS 005
 SCRNLOADBAS 005
 CIOSAVE LST 003
 CIOLOAD LST 003
 BENCHMRKBAS 008
 RUNAUTO BAS 005
 MATHWIZ BAS 008
 PICPERF BAS 060
 GR107 BAS 055
 SINE BAS 014
 SINEPRMTBAS 025
 GRAPH BAS 061
 MORAD BAS 060
 HAHANAHABAS 010
 000 FREE SECTORS

DOM 21B1
 AMSPLAY 032
 CANTINA AMS 184
 YAYSAX AMS 047
 FIREAMS 045
 KAMA AMS 088
 PINETOP AMS 053
 JUMP AMS 112
 063 FREE SECTORS

DOM 21B2
 AMSPLAY 032
 BACH AMS 164
 BETHOVENAMS 047
 STAIRWAYAMS 110
 RONDO AMS 053
 ARTHUR AMS 069
 RED99BALAMS 089
 VOLARE AMS 034
 021 FREE SECTORS

DOM 21C1
 HOMEINV PRG 193
 HOMEINV SCR 005
 ANDER NET 071
 SORT BAS 041
 HOMEINV R01 102
 HOMEINV P01 111
 HOMEINV F01 003
 HOMEINV I01 001
 MENU 015
 083 FREE SECTORS

DOM 22A1
 AXISASS BIN 053
 TRIKTRAXBIN 108
 GAMBLER BAS 162
 BIGJOKE BIN 088
 BACTERIABIN 040
 CHOPPER BIN 022
 POWERSOLBIN 131
 O BAS 007
 000 FREE SECTORS

DOM 22A2
 SECT720 BAS 012
 EXTBASICDOC 092
 EXTBASICBAS 083
 CALCULATDOC 013

CALCULATBAS 083
 EDFONT BAS 077
 DOSMIZ DOC 120
 DOSMIZ BIN 112
 BOXES BAS 006
 000 FREE SECTORS

DOM 22B1
 BILLIJ AMS 165
 MANIAC AMS 123
 LETITBE AMS 072
 HMUNTUCHAMS 097
 LONGER AMS 045
 OPENARMSAMS 047
 IMPMARCHAMS 043
 002 FREE SECTORS

DOM 22B2
 DOWNHUNDAMS 162
 SOUTHMITAMS 100
 PROUDMARAMS 046
 ISLANDS AMS 074
 LEADBANDAMS 075
 RHAPBLUEAMS 027
 RHYTHM AMS 043
 TAKEAWAYAMS 036
 AMERICA AMS 011
 020 FREE SECTORS

DOM 23A1
 SPYPLANEBAS 138
 BRING BIN 020
 HYPNOSISBIN 040
 AVALANCHBIN 042
 CLOSEOUTBIN 072
 BUNNYHOPBAS 040
 MIKEBALLBIN 242
 LACE BAS 006
 003 FREE SECTORS

DOM 23A2
 DEDSTICKBAS 166
 MULE BAS 150
 NITEDRIVBAS 117
 HORSPLAYBAS 104
 STARSECTBAS 093
 001 FREE SECTOR

DOM 23B1
 ACELOGO 020
 GR100BJ5BAS 101
 LOADFILEOBJ 002
 SCRNMOVEOBJ 001
 JOYSOUNDBAS 070
 FASTKEY BIN 001
 RAMDISK DOC 023
 RAMDISK BIN 003
 WEDGE DOC 010
 WEDGE AUT 011
 NUM DOC 003
 NUM BIN 002
 LOADBIN BAS 004
 UNLOK2 BAS 023
 REPAIR BIN 154
 CLONE BAS 018
 POLYCOPYBAS 030
 DISKDIR BAS 011
 CATALOG BAS 099
 CATALOG A 001
 CATALOG B 001
 CATALOG C 001
 CATALOG D 001
 CATALOG E 001
 CATALOG F 001
 CATALOG G 001
 CATALOG H 001
 CATALOG I 001
 CATALOG J 001
 CATALOG K 001
 CATALOG L 001
 CATALOG M 001
 CATALOG N 001
 CATALOG O 001
 CATALOG P 001

CATALOG Q 001
 CATALOG R 001
 CATALOG S 001
 CATALOG T 001
 CATALOG U 001
 CATALOG V 001
 CATALOG W 001
 CATALOG X 001
 CATALOG Y 001
 CATALOG Z 001
 LOTTO BAS 017
 000 FREE SECTORS

DOM 23B2
 AMODEM DOC 029
 AMODEM AUT 003
 AMODEM BAS 129
 AUTODIALBAS 054
 AUTODIALNUM 001
 TERM1030DOC 047
 TERM1030AUT 017
 TERM1030BAS 091
 SUPRTERMDOC 033
 SUPRTERMAUT 017
 SUPRTERMBAS 003
 TSDIAL DOC 033
 RWFILE DOC 007
 READFILEBAS 005
 WRITEFILBAS 008
 DISKTRAMBAS 058
 BOOT850 BAS 005
 011 FREE SECTORS

DOM 23C1
 KOALA BAS 023
 KOALA12 DOC 017
 KOALA1 BAS 025
 KOALA2 BAS 013
 KOALA3 BAS 031
 SAGE DOC 004
 SMARS PIC 020
 APOLLO PIC 030
 NIGHT PIC 044
 USTODA PIC 033
 VENO PIC 024
 VOYAGE PIC 045
 PORTRAITPIC 027
 TEDDY PIC 044
 BAUD PIC 013
 PLANET PIC 010
 BALLET PIC 055
 DANCE PIC 056
 MCOYOTE PIC 019
 MONSTER PIC 016
 MANSION PIC 048
 TRON PIC 015
 004 FREE SECTORS

DOM 23C2
 KOALA BAS 023
 SATURN PIC 014
 SHUTTLE PIC 031
 FIREWORKPIC 027
 SUPERMANPIC 033
 BWING PIC 020
 LITHOUSEPIC 051
 CARDINALPIC 028
 THEBASS PIC 023
 DNKYKONGPIC 019
 GGBRIDGEPIC 028
 TWEETY PIC 008
 PORKYPIGPIC 020
 HENERY PIC 014
 SPACE PIC 014
 ZIGGY PIC 016
 KOALA PIC 041
 OSCAR PIC 032
 SNOWMAN PIC 040
 DESERT PIC 017
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ANTIC '86 COMDEX REPORT: The First Day

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ANTIC Executive Editor

Las Vegas - Nov. 10, 1986

COMDEX, the international computer exposition run by The Interface Group, opened a five-day stay here today with 1,300 exhibitors and 50,000 "trade" folk attending. The event filled the huge Las Vegas Convention Center and spilled over into four major local hotels. The crowd seemed optimistic and energetic as it surged through the aisles.

Casual eavesdropping often caught the two letters "ST" floating on the COMDEX air. People are again excited about Atari, and this time it's about computers, not game machines. This report and others through the week will cover the latest Atari developments.

Atari Corp. set up its crowded COMDEX exhibit near the entrance to the main hall of the Las Vegas Convention Center. Atari occupied a rectangular island measuring about 30 by 75 feet. In that area it crammed not only its own products but those of 65 selected third-party developers. Things got so crowded that some of Atari's exhibitors had to take turns using the display space at one of the 40 minibooths.

ATARI HARDWARE

In the hardware line Atari showed its new 1200 baud, Hayes-compatible modem,

the SH212, and the new 80-column card, XEP80, for the XL/XE 8-bit computers. The long-awaited ST blitter chip was demonstrated running some sensational graphics. It is to be released early in 1987 as a \$120 upgrade, piggybacking on new ROM chips.

The SH212 modem is another price/performance breakthrough for Atari. This fully Hayes-compatible 300/1200 baud external modem retails for \$99.95. It has an industry standard RS-232 interface port, making it plug-compatible with virtually all computers. Other features include internal speaker, autodial via pulse or tone, auto-answer, and full Bell 212A compatibility. Expect to see it in the stores around the first quarter of 1987.

According to Atari president Sam Tramiel, Atari is bringing its philosophy of "Power Without the Price" to the wider peripheral market. That punchy motto may be on its way out though -- one Atari press release says the new tag line is "Technology So Advanced It's Affordable." Perhaps those words are only for the business market, to which Atari has assigned long-time Tramiel associate Sig Hartmann.

The XEP80 is an 80-column board for the Atari XL and XE 8-bit computers. It costs \$79.95 (a dollar a column, says Atari's John Skruch, Associate Director for Computer Software). The XEP80 plugs into a joystick port and requires a monochrome monitor or black-and-white TV. Although no major word-processor programs now support 80-column format for the 8-bits, Skruch says that PaperClip, by Batteries Included, and AtariWriter Plus, by Atari, are being adapted for that purpose.

IOC 8-BIT POWER

Another 80-column board for the 8-bit XL/XE computers was introduced here by IOC, Inc. of Rockford, Illinois. This board costs \$99.95 and can only work as a

piggy-back add-on to the company's Multi I/O external interface box for the XL/XEs. However, this card operates in 16 selectable colors (or monochrome) and requires no RAM from the computer.

Multi I/O itself provides five valuable functions: RAMdisk (256K or 1 megabyte), parallel printer interface that accepts standard 850 cables, a serial printer/modem interface with the 850 handler built-in, a spooler, and a hard disk interface that supports up to eight SASI or SCSI controllers simultaneously -- using either 5 1/4-inch or 3.5-inch hard drives. Multi I/O costs \$199.95 in the 256K configuration and \$349.95 for 1 meg.

Another ICD product is the R-Time 8, a battery-powered real-time clock for the Atari 8-bit. It plugs into the cartridge port and works with or without Multi I/O. R-Time 8 costs \$69.95.

Machines equipped with Multi I/O can be networked within 50 feet to share hard disks, printers and files using the company's proprietary SpartaDOS.

MICROSOFT WRITE

On the software side, Atari showed and announced its word processor for the ST called Microsoft Write. This package, to be shipped late this year, is a direct port by Microsoft of its Macintosh Word, Vers. 1.05. It makes full use of type fonts, including proportionally-spaced fonts, and many special features pointing towards desktop publishing with a laser printer. Insiders expect Atari to offer an affordable laser printer in 1987. Microsoft Write will retail for \$129.95 when it ships late this year.

ARRAKIS EDUCATIONAL

Apparently Atari will be building up the software side of its business, according to an announcement by Sam Tramiel at Atari's party held this evening at Caesar's Palace. Among the programs offered will be a series of

educational programs for junior high schoolers. These were designed by Arrakis Software of Canada and include 17 modules on algebra, trigonometry, geometry, statistics, biology and physics. Although other educational programs are available for the ST, few address the needs of this age group, who comprise about 60% of personal computer users, according to John Skruch.

CHRISTMAS SOFTWARE PROMO

Atari announced a cooperative ST software promotion to run through December. It has mailed coupons to ST dealers which will be given to the customer at time of purchase. Each company controls the discount, rebate or free merchandise offered by its coupon. The Catalog from Antic has a typical offering. Buy Flash, CAD-3D, A-Calc, Expert Opinion, or Maps and Legends and receive any of the following programs for \$5 each: Disk Doctor, COLR Object Editor, Star Struck, Red Alert, A-RAM, A-Seka, Murray and Me or Mom and Me. The offerings of the other participants are listed at the end of this article.

Commenting on the promotion, Michael Katz, Atari Executive Vice President, said, "We feel this will serve as a great incentive to the consumer to purchase ST software and will help our ST dealers generate profitable, new and continuing software sales."

FIRST WORD PLUS

That free bundled software with purchase of an ST is a thing of the past was confirmed by Atari's new Director of Software Sales, Richard Frick. "Only ST BASIC will come with the computers now. 1st Word has been improved and will sell as a product called 1st Word Plus." He was demonstrating the ability of this word processor to incorporate graphics with text at the show.

Atari claims there are now more than 700 software titles available for the ST computers, but admits that many of this

number are updates or enhancements of earlier versions of programs available for the ST.

Antic Publishing identified more than 300 unique commercial ST programs in its winter issue of START -- the ST Quarterly, which will be on the newsstands Dec. 1. The December issue of Antic Magazine identifies more than 100 more products designed for the 2-bit Atari computers.

As one of Atari's third-party developers, Antic Publishing showed its products from The Catalog, especially CAD-3D with Tektronix's 3-D glasses. This combination enables true 3-D viewing of full-color animated onscreen images.

SOFTWARE OFFER DETAILS

ACTIVISION -- Offering a \$12 rebate on PaintWorks or Music Studio; Hacker and 14 other games, get rebate and free demo disks.

ATARI -- Buy DB Master One, get a free box of 5 double-sided disks; buy DB-Man and get GEM version for \$25 (a \$49.95 value).

BATTERIES INCLUDED -- Buy any of their ST titles and receive free TimeLink or I.S. Talk.

DAC SOFTWARE -- Buy Dac Easy Accounting, get DAC Easy Personnel for 30% off.

ELECTRONIC MUSIC PUBLISHING -- Buy MIDI disk, get a music disk free.

FTL GAMES -- With any software purchase, get free game sampler disk containing demo of four games.

GENERIC -- Buy First CAD (\$49.95 value), get 30% off Electronic Symbol Libraries (\$24.95 value).

MARK WILLIAMS CO. -- Buy Mark Williams C, get \$10 rebate.

MAXTHINK -- Buy Maxthink and get free book on thinking, "Style of Thinking."

MICHTRON -- Buy Mighty Mail or Personal Money Manager and get Your Financial Future (retail \$39.95) at half price.

MIGRAPH -- Buy Easy Draw and either Fast (\$49.95) or LabelMaster (\$39.95) and get a free poster-making program (\$29.95 value).

PCA -- Buy The Graphic Artist (\$199.95) and get a \$5 rebate on any auxiliary product priced from \$39.95 to \$79.95.

QUICKVIEW SYSTEMS -- Buy Zoomracks II, get a starter pack free (\$19.95 value).

REGENT SOFTWARE -- Buy Regent Word II and get a free backup disk, a \$10 value.

ROYAL SOFTWARE -- Buy E-Z Calc (\$69.95), get Help Calc (\$24.95) at half price.

SIERRA ONLINE -- Buy two games, get a third game free (up to \$49.95 value). Offer applies to King's Quest I and II, Space Quest and Black Cauldron.

TDI -- Buy Modula II and get Example free (retails for \$24.95).

VIP TECHNOLOGY -- Buy Pro Gem and get templates free.

XLEnt -- Buy Typesetter Elite (\$49.95 retail) and get Typesetter Utilities, Vol. 1 "The Font Editors" for \$9.95 (\$19.95 retail).

ANTIC '86 COMDEX REPORT:
The Second Day

Software and peripherals companies have climbed on the Atari bandwagon and are showing new or revised products at Atari's pavilion here at the autumn COMDEX. Sixty-five such "third-party" vendors are showing products that range from business applications to pure fun.

One striking new application is the touch screen technology for the ST by the Video Touch Company of Springfield, Oregon. Demonstrating a real-life restaurant ordering program operated entirely by touch, this company shows how Atari STs can match and even improve on data-entry systems formerly costing much more. The application is flexible both in terms of the kinds of businesses it can serve and the changes needed periodically to meet new conditions.

The system uses standard ST hardware with monitors modified to include the touch screens. One ST running under the Micro RTX operating system from Beckemeyer Development Tools controls the other STs in the system. The user interface is completely graphic and requires no computer knowledge to operate. New employees learn how to use it in 20 minutes, according to the manager of the Mill Camp restaurant where the system was first installed.

Beckemeyer Development Tools also showed the Micro RTX kernel running with the company's MT C Shell (\$129.95) which creates a multi-tasking, multi-user environment for many programs to operate simultaneously.

Other monitor news from the show includes the Monitor Box from JNL Technologies of Oceanside, NY. This box plugs into the video-out port and converts the signal to both composite video and RF. This makes it possible to use monitors other than Atari's brand, plus regular television sets, video recorders, projection TVs and other video equipment. The Monitor Box will sell for \$59.95 when shipped in Jan. 1987.

CAD & ANIMATION

Another impressive new program for the ST is Drafix-1, a full-featured, high-performance CAD package ported over from the IBM by Foresight Resources Corp. of Lawrence, Kansas. This program for professional architects, engineers, drafters and other designers actually runs faster on the ST, in some functions, than its counterpart on the IBM. It costs \$249.95.

FirstCADD Atari is another two-dimensional drafting and design package intended for the entry level, business or recreational designer. Both color and monochrome modes are supported. The program costs \$49.95 and is from Generic Software of Redmond, Washington.

Other software companies showing drafting programs that have been reported on earlier are Migraph (Easy Draw, \$79.95) and PCA (Graphic Artist, \$199.95). Graphic Artist combines CAD with desktop publishing in that variable type faces can be used with its drawings in a laid-out page to be printed by a laser printer.

Aegis Development Inc. showed its Animator ST program that should be available before Christmas. This program can use any ST drawing as a background, for example NEOchrome or DEGAS, and overlay detailed cels to create an illusion of movement. The program does the tough work of creating intermediate steps. It will also change the shape of one object to the shape of another - say a fish to a dog - or make objects appear to move through color cycling, as in a waterfall or a waving flag. Retail price is \$79.95.

Avila Associates of Lafayette, CA, again showed its Animation program called Make It Move, which sells for \$49.95.

ACCOUNTING

Execon Business Software of London, England, demonstrated its Accounting

software, part of a larger integrated system for British business. The payables, receivables, ledger and forecasting module has been Americanized and will be available in January for \$250. This will be followed by the Invoicing and Inventory modules which will sell for \$150 each.

Crystal Software of Merlin, Oregon, introduced Fore*Star, a financial forecasting spreadsheet and general ledger program for business with integrated word processor and report printer -- all in one for less than \$100 when it appears next year. Crystal also offers PayDay, a payroll program for small businesses that sells for \$69.95.

SBM is an accounts and inventory program from Newell Industries of Wylie, Texas. This program is available for the Atari 8-bit computers or the ST and sells for \$99.95.

The incredible accounting software buy for the ST, however, remains DAC-Easy, a complete accounting package for business that costs \$69.95. It is available from DAC Software of Dallas, Texas.

At the personal level, Monogram Software has converted its popular Dollars and Sense program from the Macintosh to the ST. This GEM-based mouse-oriented program accepts 120 separate accounts for maintenance analysis, reporting and check writing. The package is ready now and costs \$99.95.

MAXTHINK is a new outliner and idea processor for the ST. The size of the outline is limited only by memory, as are the number of topics and levels of detail it can accomodate. Material can be moved about easily. The program retails for \$59.95 and is available from MaxThink in Piedmont, CA.

VIDEO DIGITIZERS

MichTron's Video Digitizer Expert (by

way of Pro-Technik of Germany) features 128 gray levels, resolution as high as 1024 X 512 pixels and NEOchrome and DEGAS compatability. Antic first saw this outstanding digitizer in Europe last year and has been waiting eagerly for its availability in the U.S. A lower resolution version, the MichTron Realtizer, quickly digitizes pictures in 320 X 200 resolution with 16 gray levels. The Sound-Expert sound digitizer has a 40kHz sample rate and 8-bit resolution.

A new color video digitizing system for Digital Vision's Computereyes (\$249.95) captures images in full color or monochrome from a VCR, video camera or video disk, automatically calibrating brightness, contrast and color balance. All ST graphics modes are supported in a variety of formats. Low resolution takes six seconds to scan and hi-res takes 24 seconds, and images can be saved to files in NEOchrome, DEGAS, etc.

DESKTOP PUBLISHING

Major desktop publishing products for the Atari ST pulled a great deal of focus at COMDEX.

From England, the Fleet Street Editor (about \$150) has a complete disk of library graphics and is ideal for newsletters, sales bulletins, restaurant menus and circulars. The two Fleet Street Publisher packages for the ST let you produce multi-page documents with editable page layouts and more, in addition to those features offered at the Editor level. Publisher Level I will be available this spring, and Level II will be ready in the summer.

In all three packages, what you see on screen is what you get on paper. Features include kerning (changing the spacing between characters to make it more pleasing), picture sizing and cropping and output to dot-matrix or laser printers.

XLent Software's mouse-controlled and menu-driven TypeSetter Elite (\$49.95)

contains 23 built-in fonts and the ability to load custom fonts, and you can underline and outline text and change intensity, copy and move texts, grab entire screens and print a full page, screen dump, free form, index cards, labels or Rolodex cards.

TypeSetter Elite supports both color and monochrome systems, and you can preview your output before printing. A text formatter is provided to move ASCII files into the program.

Coming soon for the ST is LaserType (\$279) by Softlab, which takes full advantage of the Hewlett Packard LaserJet+ printer's font downloading and gives you smooth graphics and full typesetting capabilities. Select from 20 different screens and tones for column headings, backgrounds or graphic designing, and control 16 type styles and sizes.

SoftLogik's Publishing Partner (\$149.95) gives you type as small as six points and as large as 144, as well as backslant, double underline, mirror and inverse type faces (in addition to such standard faces as bold, italics and underline). You can also reduce, enlarge or cut any DEGAS or NEOchrome picture.

Postscript and several printers are supported, as well as color or monochrome monitors, and additional printer drivers are being released.

PRINTERS

Keep It Smart and Simple with the QMS KISS (\$1,995) laser printer, which produces crisp, near-typeset characters at nearly 400 characters per second (cps) -- six pages a minute. Mix as many as 64 fonts on a single page, and combine graphics with portrait and landscape text on the same page.

The Big KISS and Big KISS II (both \$2,995) are quiet and fast, also allowing 64 different fonts on a page, 17 of which are built in. The Big KISS has a

standard parallel interface, and the Big KISS II has a dual serial/parallel interface. Print eight pages per minute, and 256K can be used to print graphics with single, double, triple and quadruple Epson densities.

The QMS Smartwriter 80+ gives you 19 resident fonts, 75, 150 or 300 dots per inch (dpi), and 2.5Mb of dynamic RAM, allowing you to produce a full legal page of bit-mapped graphics. Also, you can use most software packages that work with your dot-matrix or daisywheel printers.

The LaserImage 2000 (\$3,495) from Personal Computer Products gives you near-typeset quality also, and a pop-in cartridge lets it emulate an HP LaserJet+. A second cartridge slot lets you change fonts instantly. The LaserImage 2000 prints full-page, 300 X 300 dpi graphics at 8 pages per minute. Both serial and parallel interfaces are included.

The 24-pin NEC CP6 (80 columns, \$860) and CP7 (136 columns, \$1,160) are dot-matrix Color Pinwriters that give you eight colors and 360 X 360 dots-per-inch resolution for graphics, and high speed (180 cps in draft mode) and letter quality for text. These quiet printers are compatible with the Epson LQ Series and JX80. COMDEX saw the announcement of option kits including buffer expansion and extra font capability for the CP6 and CP7.

ATARI COMPUTER ENTHUSIASTS OF COLUMBUS

UPCOMING MEETINGS:

XL/XE

January 12

February 9

ST

January 15

February 12

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FIRST CLASS MAIL

To: